Reprinted from “Copeia” Volume 1991, number 1, 1991, pp. 262-263, Powell: [Book Review]. Laboratory guide to the early life history stages of northeast Pacific fishes, by Ann C. Matarese, Arthur W. Kendall, Jr., Deborah M. Blood and Beverly M. Vinter. 1989. NOAA Technical Report NMFS 80 (652 p.). With permission from the American Society of Ichthyologists and Herpetologists.

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1991, No. 1
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LABORATORY GUIDE TO THE EARLY LIFE HISTORY STAGES OF NORTHEAST PACIFIC FISHES. By Ann C. Matarese, Arthur W. Kendall, Jr., Deborah M. Blood and Beverly M. Vinter. 1989. NOAA Technical Report NMFS 80, 652 p., no price given (softcover). [Available from U.S. Department of Commerce, Springfield, Virginia 33161.]—This comprehensive guide is the result of 10 years of thought and work that included not only the talents of the authors, but those of numerous other people acknowledged by the authors. This guide provides taxonomic information to assist in identifying eggs and larvae of mainly coastal and nearshore fishes of the Northeast Pacific Ocean between northern California (38°N) and the eastern Bering Sea (66°N) within 370 km (200 miles) of shore. The foundation for this guide contains two important components—the compilation of a comprehensive checklist of species whose eggs and planktonic larvae were likely to occur in the study area, and a comprehensive meristic data base of those species.

The guide can be considered to consist of two parts. The first part is brief (30 pages) and consists of sections titled *Introduction, Species list, Identifying fish eggs and larvae,* and *Using this laboratory guide.* The *Introduction* section provides a brief summary of the progress of the Northwest and Alaska Fisheries Center in the identification and understanding of early life history stages of marine fishes. This publication manifests their progress. Also included in this section is a description of the geographic area the guide covers (noting taxa that have been excluded from the guide) and a summary of information sources that were used to compile the guide. The *Species list* is invaluable. It is a comprehensive checklist of species in the study area annotated to show the status of early life history information. Hence, one knows what has been described and where gaps in knowledge are. The *Identifying fish eggs and larvae* section provides basic information on suites of characters that are used to identify eggs and larvae. This would be most useful to students or workers just learning to identify ichthyoplankton. In addition, illustrations of postflexion larvae are provided that aid in recognizing larvae at the ordinal and subordinal level. Also included in this section are a summary table of ordinal/subordinal egg, larval and meristic characters, the range of total vertebral counts of families in the study area, tables and illustrations showing distinguishing features of some "commonly collected heavily pigmented larvae," and tables and illustrations of comparative diagnostic characters of families that exhibit elongate larvae.

The section *Using the laboratory guide* explains the format and provides guidelines for using the pith of guide—*Taxon accounts,* the second part of the guide. The format that was chosen organizes information consistently throughout the *Taxon accounts* section and therefore the guide is easy to use and information is readily obtained. A two-page format is used. One page provides information on meristics, life history information (e.g., range, adult habitat, spawning time and season) and descriptions of eggs and larvae, including diagnostic characters. The other page provides illustrations of eggs and of larvae by stage. The format appears to be a modification of the excellent guide to eggs and larvae of fishes in the western North Atlantic Ocean by Fahay (1983). My only criticism is that the inclusion of fecundity, age at first maturity, and longevity are not relevant to the purpose of the guide.

The *Taxon account* section consists of approximately 600 pages of useful information. The accounts do not simply consist of information

contained in the format described above. Where early life history information is unavailable, comprehensive meristic data are included. For each order and for taxa (e.g., genera, families) where there are difficult identification problems or taxa that contain numerous similar species, an introductory section is provided. Diagnostic characters are summarized and in some cases tables provide information to aid in identification. For example, the family Scorpaenidae has an introduction section that provides subfamily information. A table follows that provides information on the distribution, parturition season, and meristic characters of the genus *Sebastes*. This is followed by a table listing head spine terminology in *Sebastes* that also resolves differences in terminology of different authors. A figure depicting the positions and abbreviations of larval head spines in larval *Sebastes* is provided along with a table providing information on the presence and absence of head spines which are diagnostic for adult members of *Sebastes*. Eight pages of illustrations depicting extrusion or yolk-exhaustion larvae are given followed by six pages of quality illustrations of *Sebastes* pelagic juveniles presented as a pictorial key. Species accounts are then given in the standard format.

Overall, the quality of illustrations is very good. Included are 200 unpublished, high quality illustrations. Some substandard illustrations from the literature were included, and it is unfortunate the authors did not redraw these. Particularly bothersome are those figures where myosepta are boldly drawn and obliterate other characters. I found very few typographical errors. Lengths at fin formation and completion are not given, and I am not sure why the authors did not consider providing this information. In my opinion, this publication meets the authors' stated purpose, which was to provide "descriptive information necessary to insure accurate identification of eggs, larvae, and early juveniles of marine fishes in the northeastern Pacific Ocean and Bering Sea." I am sure this guide will be well accepted by early life history investigators working in the northeastern Pacific.

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LITERATURE CITED

FAHAY, M. P. 1983. Guide to the early stages of marine fishes occurring in the western North Atlantic Ocean, Cape Hatteras to the southern Scotian Shelf. J. Northwest Atl. Fish. Sci. 4, 423 p.